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## IN THE SPECIFICATION:

Please amend Paragraph [0004] as follows:

[0004] Disclosed herein are hydrogen gas detector calibration systems, processes for calibrating the hydrogen gas detector, processes for operating a hydrogen gas detector, and processes for operating an electrochemical system. In one embodiment, A hydrogen a hydrogen gas detector calibration system comprises: a mixing tube; a first conduit in fluid communication with a hydrogen-free gas, wherein the first conduit comprises a first orifice in fluid communication with the mixing tube; an electrolysis cell for generating hydrogen gas; a second conduit in fluid communication with the hydrogen gas, wherein the second conduit comprises a second orifice in fluid communication with the mixing tube; and the hydrogen gas detector in fluid communication with the mixing tube.